

## **NARRATIVE DESCRIPTION**

**Watershed Characterization and Planning Effort:** Dunkard Creek, a major tributary of the Monongahela River (Ohio River Basin), has a 235-sq. mi. watershed within nine townships in Greene County (southwestern Pennsylvania) and three districts in Monongalia County (northwestern West Virginia). Dunkard Creek and all tributaries, with one exception, have been classified as Warm Water Fisheries (PA Title 25, Chap. 93). Dunkard Creek has been documented as supporting Smallmouth Bass, Sunfish, and Muskellunge in all but the lower 6.2 miles, which have been devastated by abandoned mine drainage (AMD), having no benthics or fish. Characterized by steep ridges and narrow valleys, this rural watershed with about 20 small communities is 50% forested with over 33 native tree species. In 1999, the Resource Assessment for the Dunkard Creek Watershed within WV was completed, and, through a broad-based, public-partnership effort with State support from PA and WV, the Dunkard Creek Watershed Rivers Conservation Plan (Plan) which covered both states was completed in 2000. Biological, physical, and social/cultural characteristics were discussed in both reports. AMD was identified as the number one problem and first priority in these documents and in public meetings. According to a 1994 PA Dept. of Environmental Protection (PADEP) 305(b) report, \$66,690 in recreational use of Dunkard Creek was lost annually due to AMD degradation. (Fish kills due to AMD were reported in newspapers 9/1998 & 9/2002.) The 2002 PA 303(d) list identifies Dunkard Creek as impaired due to AMD (metals & suspended solids) with monitoring for development of Total Maximum Daily Loads (TMDLs) scheduled for 2003 in PA and 2008 in WV. Solid waste/trash dumps, erosion/sedimentation, education, sewage, water quality, and recreation/heritage were the remaining issues listed in descending order of priority by the Plan. On 2/19/00, the PA Dept. of Conservation and Natural Resources (PADCNR) acknowledged that all projects in the Plan qualified for restoration by listing the Dunkard Creek Watershed on the PA Rivers Conservation Registry. Through generous in-kind contributions from public-private partnership efforts, grants from the PADEP Growing Greener (GG) program and/or other sources, projects to date have addressed wastewater management, abandoned

deep mine assessment, trash dump removal, Greene Co. Watershed Alliance (GCWA) and East Dunkard Watershed Association organizational assistance, youth-based watershed monitoring, agricultural best management practices, and Mason-Dixon Historical Park programs. In addition, through a broad-based partnership effort with private industry, local and state agencies, private citizens, and PA and WV watershed groups with support from elected state and local officials, Stream Restoration Inc. (SRI) [non-profit 501(c)(3)] working with the GCWA and Greene Co. Conservation Dist. (GCCD), has recently been awarded a \$958,900 grant to install a passive treatment complex (Phase I) on the first-priority AMD project identified in the Plan. Having established a track-record for successful grant administration and with undisputed broad-based local and regional support, the GCWA is the entity responsible for this EPA proposal. The GCCD and SRI fully support the GCWA and pledge administrative assistance, upon request.

**Description of Proposed Projects:** The Plan recommends addressing one project annually (short-term goal) in each category based on available funds. EPA funding coupled with on-going Plan implementation will enable the severe AMD impact to Dunkard Creek to be essentially eliminated in <8 years (long-term goal). In accordance with the Plan, *all* categories are addressed to achieve the short- and long-term goals. **AMD:** Through this EPA initiative, the second and final phase for the Mathews Restoration Area (Plan ranking: first-priority) can be completed. Upon successful Phase II system installation, all AMD with significant stream impact will be passively treated. With recent funding of Phase I, a limited, two-year, window of opportunity exists to expand the public-private partnership effort and to combine the resources of the EPA initiative (Phase II) with that of the GG initiative (Phase I). Completing both phases concurrently will demonstrate a cost-effective, integrated, comprehensive, and collaborative approach to abandoned mine restoration. Significant cost savings will be realized by combining permitting efforts, sharing equipment and manpower, coordinating monitoring and surveying, etc. In addition, shared passive components, such as the final wetland (WL3) and Diversion Well (117-4), decreases overall project cost and also demonstrates integration and compatibility of State

and Federal programs in abandoned mine restoration efforts. (See attached Prelim. Conceptual Design Plan.) If funded, this EPA grant will enable treatment of highly-degraded AMD (design parameters: 50 gpm, 2.9 pH, 420 mg/l acidity, 23 mg/l D. Fe, 5 mg/l D. Mn, 34 mg/l D. Al) from a large, abandoned, commercial underground coal mine by installing the following: (1) innovative collection system for discharge 117-6A with natural streambank and channel restoration; (2) two, flushable, **Hybrid Horizontal/Vertical Flow Ponds (HVFP1 & HVFP2)** with a limestone aggregate (no compost) treatment medium and innovative flow distribution system (This is the **first-known, full-scale, installation**, although participants have successfully retrofitted limestone-only Vertical Flow Ponds using a similar design.); (3) Settling/Flush Pond (SFP1); and (4) Settling Pond/Aerobic Wetland (SPWL2). The combined Phase I and II treated drainage, with a projected quality of 6+ pH, ~50 mg/l alkalinity, and <1 mg/l of each dissolved metal, is expected to essentially restore the unnamed tributary and improve Dunkard Creek. (Participants have documented the return of fish and caddisfly larva within 2 years in a more severely AMD-impacted stream after installation of passive systems in a similar setting.) In addition, upon capturing and piping discharge 117-6A directly to the passive system, the source of degradation to a 240-foot stream segment is eliminated, enabling the good quality upstream flow to be reflected in the watercourse. Even though not a large AMD constituent at this site, of particular interest to the regulatory community will be the demonstration of Mn removal, historically problematic in passive systems. A predecessor to the HVFP, the Horizontal Flow Limestone Bed, theorized by PADEP and first designed and implemented in 1999 by BioMost, Inc. (project partner), has been successfully utilized to decrease dissolved Mn concentrations from 50 to <1 mg/l. As part of the on-going development of this technology, the HVFP will be installed with a flow distribution piping system, the first of this design, which will allow not only flushing capabilities but also the ability to readily operate in either flow mode, vertically or horizontally. (Monitoring outlined on attached Prelim. Conceptual Design Plan.) **EDUCATION & WATER QUALITY:** If funded through the EPA initiative, the development and implementation of an education/outreach program for the entire

Mathews Restoration Area will be possible. This program will be the **first in the 235-sq. mi.**

**watershed to demonstrate AMD passive treatment.** This program is imperative to demonstrate an holistic interdisciplinary approach to watershed restoration and to promote sustainability and expansion of the watershed stewardship concept, needed to address other priority abandoned mine sites on private land. Based on identified needs in the watershed and on opportunities provided by existing site conditions, the holistic concept encourages other environmental elements to be incorporated in the mine restoration plan. This approach will be demonstrated by the compatibility of the created exceptional-value wildlife habitat with the passive treatment system, which includes the above noted components of Phase II and those of Phase I (Forebay, two innovative Vertical Flow Ponds, operable in parallel or series, with limestone aggregate overlain by compost, Naturally-Functioning Wetlands, and a Diversion Well). (See attached Prelim. Conceptual Design Plan.) To promote interest in expanding restoration activities, the program will also include “hands-on” educational opportunities for school/youth groups and volunteers, such as, wetlands delineation and plantings, implementing and monitoring of wildlife habitat, water quality monitoring of various passive treatment components, and water quality and aquatic life monitoring of streams. (Monitoring outlined on attached Prelim. Conceptual Design Plan.) To provide further educational opportunities and to demonstrate that holistic mine restoration plans can be successfully developed, the program will also focus on the Naturally-Functioning Wetlands, with identified monitoring plots and walkways established on berms/directional flow barriers. These wetlands, developed in an oxbow remnant of Dunkard Creek from AMD-impacted wetlands with poor diversity, will be designed to include fish habitat in deeper water areas, a diverse plant community of about 30 native species, and bird habitat including osprey nests (PA Endangered). The existing minesite with wooded uplands offers additional environmental improvement opportunities, including the creation of bat habitat through the installation of a bat gate at the abandoned mine entry, and bat boxes and condo designed specifically to encourage use by Evening and Silver-Haired Bats (PA Candidates-Rare). Restoration of the abandoned mine also facilitates the creation of butterfly and bird habitats. The

outreach opportunities provided by incorporating these habitat improvements will extend beyond this rural watershed to a local urban center. This is made possible by partnering with the National Aviary (Pittsburgh, PA) which will use this site in their award-winning program where inner city youth develop and install bird habitat and maintain wetlands. A website will provide extended outreach opportunities by posting water and habitat monitoring. Wide-spread data dissemination is imperative in order for the site to serve as a model for future abandoned mine restoration efforts in this watershed and throughout Appalachia. Because of the outpouring of community support, the Mathews Environmental Education Center (Center) is proposed. This small (20'x30'), wooden building will house test kits and other educational materials and provide sheltered working space (electricity available onsite). This will be the *first facility dedicated to environmental education in Greene Co., PA and in the Dunkard Creek Watershed in Monongalia Co., WV.* **SEWAGE:** Onlot/non-existent septic systems are problematic. Even though not exclusively a mining-related problem, sewage must be considered when restoring a mine as severe sewage pollution has been documented in abandoned underground mine discharges. In addition, surface mine spoil is not generally renovating, being unsuitable for onlot systems. To address this issue, recent local efforts have encouraged separation of greywater from human waste. For demonstration of this concept, a small greenhouse is proposed as part of the Center for greywater treatment prior to entering the final wetland. (With limited usage by small groups, composting toilets are proposed for human waste.) **EROSION/SEDIMENTATION:** The Plan identified that the sedimentation and substrate cementation problem in the lower 6.2 miles of Dunkard Creek is caused by metals precipitating from AMD. This problem was also identified as the main reason for the lack of fish and benthics in this area. The sediment problem associated with metal precipitates will be vividly demonstrated by the accumulation of bright-orange iron solids in the Settling Ponds. The metal loading eliminated by the passive systems for both phases is estimated at over 50 tons/year (100,000 lbs/year). In addition, E & S Controls implemented as part of the abandoned mine restoration efforts are applicable for earth disturbance activities in general. Practices utilized will be revegetation, access/parking area

stabilization, streambank restoration, etc. For example, “Grassy Pavers” will be used on a portion of the parking area to demonstrate a functional alternative to solid paving that maintains greenspace and provides stormwater management. Stream monitoring for suspended solids will demonstrate success/failure of these practices. **SOLID WASTE/TRASH:** Illegal dumping was documented in the Plan to be a large problem. Abandoned mines are often targeted for dump sites. As an outgrowth project and as part of the holistic approach, clean-up is proposed of a nearby dump extending along the streambank and within Dunkard Creek for about one mile. Combining EPA funding with that previously received from GG will demonstrate a commitment to solving this problem. Focused educational opportunities are necessary to encourage local residents to choose more environmentally-friendly options. Recycling containers coupled with an educational component at the Center will explain the cost of illegal dumping to the environment, recreational opportunities, and the community. **RECREATION/HERITAGE:** The Mason-Dixon Historical Park (Park), located in both PA and WV along the banks of Dunkard Creek, was highlighted in the Plan. The Dunkard Creek Watershed Association (DCWA), headquartered in WV, has been instrumental in maintaining the Park. Even though AMD does not impact the Park, to further public outreach regarding the environmental degradation from AMD and other environmental issues identified in the watershed, a kiosk with interpretative panels overlooking the scenic Dunkard Creek in WV is proposed. (Kiosk design provided as in-kind with \$1000 matching funds.) Watershed information depicted will include a map with geographic features, facts, restoration sites, and data about flora and fauna. Since the watershed boundaries are not consistent with political subdivisions, a project that spans not only county and municipal boundaries but also state boundaries, provides an excellent demonstration of shared stewardship and responsibility for our resources.

### **PROJECT IMPLEMENTATION DATA**

**Quarterly reports will document the environmental milestones for each project. Monitoring will include a brief evaluation of system performance/stream recovery.**

<b>Project</b>	<b>Schedule</b>	<b>Budget</b>	<b>Environmental Milestones</b>
Permits, E&S, design, etc.	2 mo. (05/03-07/03)	\$67,000	Approvals(partial comp. in GG)
Passive system construction	5 mo. (07/03-11/03)	\$444,200	“As-Built”; water monitoring
Wetland & Upland plantings	4 mo. (05/04-09/04)	\$35,000	Inventory of coverage
Bat, butterfly and bird habitats	4 mo. (05/04-09/04)	\$19,000	“As-Built”; monitoring
Website	On-going (09/03-05/06)	\$10,000	Website online
Stream water monitoring	Quarter (05/03-05/06)	\$8,000	Report online
Stream aquatic life monitoring	Annual (05/03-05/06)	\$13,000	Report online
Passive system monitoring	Month (12/03-05/06)	\$14,000	Report online
Wetland plant monitoring	Annual (07/04-05/06)	\$6,800	Report online
Mathews Env. Ed. Center	Year (04/04-04/05)	\$135,000	“As-Built”
Education/Outreach	On-going (05/03-05/06)	\$60,000	Kits/materials/supplies; programs
Dump Clean-up	1 mo. (05/03-06/03)	\$20,000	Dumpsters, roll-offs, bags, etc.
Mason-Dixon Park kiosk	4 mo. (05/05-09/05)	\$35,000	“As-Built”; interpretive panels
Final Report (>100pgs.)	1 mo. (05/06)	\$15,000	Photo log; “As-Built”; analyses
Grant administration	On-going (05/03-05/06)	\$61,700	Reports; invoices

**Total Funding Requested: \$943,700**

### IN-KIND

<b><u>SOURCE</u></b>	<b><u>DESCRIPTION</u></b>	<b><u>AMOUNT</u></b>
GCWA	3% decrease admin.; youth monitoring; planting; etc.	\$79,200
Stream Restoration Inc.	Phase I GG funds & in-kind(\$143,400)	\$1,102,300
Stream Restoration Inc.	<u>Accepting the Challenge</u> (100 books); admin. assistance	\$5,800
Aloe Charitable Fnd.	Sustainability Phase II & Dunkard Ck. Watershed Assn.	\$2,000

Downstream Alliance	Benthic and stream water quality monitoring	\$11,586
Botanical Soc. of W. PA	Butterfly habitat; <u>The Wildflowers of PA</u>	\$2,500
Bobtown/Dunkard Read	Computer time	\$1,000
PA DEP	TMDL Study and system monitoring	\$60,000
GCCD	Workshops; training; grant assistance	\$4,500
Jennings Env. Ed. Ctr.	On-site environmental ed. workshops & assistance	\$1,000
Quality Aggregates Inc.	5-year warranty on Phase II Passive Treatment System	\$25,000
Quality Aggregates Inc.	Youth busing; access/parking; project development	\$21,000
241 Computing Services	Reduction in website hosting(25%) & design(50%)	\$5,000
Andrianos Arts	Auto-CAD design plans for Env. Ed. Ctr.	\$6,000
Aquascape	15% reduction in consulting fees	\$11,000
BioMost, Inc.	15% reduction in consulting fees	\$12,000
Brenner Ecological	20% decrease in fees; bat mist netting; osprey nest plans	\$1,800
Earthtech	Reduction in "As-Built" surveying	\$2,000
G&C Lab.	\$2/sample analysis decrease	\$500
WOPEC	Reduction in consulting fees	\$500
Wayne Lumber Co.	Lumber for bird and bat houses, etc.	\$150
Forever GreeneHouse	Plants for butterfly habitat	\$25
Eagle One Aviation	Computer time, etc.	\$2,500
Bobtown Market	Food, etc.	\$500
Pecjak's Sunoco	Refreshments, etc.	\$400

**Total In-Kind: \$1,358,261 (THIS IS A MATCH OF 144% OR 59% OF THE TOTAL COST.)**

The Quarterly Reports will describe the progress, estimating percent complete for each milestone/task.

The success/failure relating to stream restoration and effectiveness of each passive component will be



demonstrated by the quarterly monitoring program (flow, field/lab pH, conductivity, field/lab alkalinity, acidity, total/dissolved metals (Fe, Mn, Al), sulfates, susp. solids). Water, wildlife, wetland plant monitoring data will be reported on the website for easy access and extended outreach. The success of the education/outreach programs will be measured by questionnaires, overall participant interest, and outgrowth projects. This is a team effort with the GCWA being responsible for project coordination. SRI, having successfully managed projects with installation of 15 passive systems, will assist in coordinating the implementation of the passive facility at the site.

**Description of Project Management and Stakeholder Involvement:** The Dunkard Creek Watershed Rivers Conservation Plan (Plan) was completed by a team of representatives from both states including the GCCD, PADEP, US Dept. of Agriculture, Greene Co. Planning Commission, WVU Dept. of Forestry, DCWA, PA Game Commission, and Waynesburg College. The Plan was approved by the PADCNR with the listing of the watershed on the PA Rivers Conservation Registry. This proposal would implement a portion of the Plan. This subplan was developed by a public-private partnership effort that consisted of a team of proven leaders in the fields of partnership development [GCCD, GCWA, DCWA(WV), SRI], education and public outreach [(all previously noted), Jennings Env. Ed. Ctr., National Aviary, Botanical Soc.], and passive treatment technology(design and construction) [BioMost, Inc., Aquascape, Quality Aggregates Inc., WOPEC(WV)]. The subplan will be implemented by this team with the role of each participant reflecting the areas of expertise listed above. See attached Letters of Support for related plan implementation experience and qualifications.

#### PLAN IMPLEMENTATION

Responsibilities	Responsible	Cooperating	Roles include
Grant administration	GCWA	GCCD; SRI	Contracting, reports, bookkeeping, invoicing
Project coordination	GCWA	GCCD; SRI	Oversight, management, media events, point of contact

Jointly, the partners have successfully administered grants with project costs totaling over ten million dollars, including single projects with budgets exceeding one million dollars. Granting agencies have

included the PADEP, US EPA, League of Women Voters, W. PA Coalition for Abandoned Mine Reclamation, county governments, private foundations, and industry.

## **PROJECT IMPLEMENTATION**

Successfully completed projects by participants include some of the largest and most innovative passive treatment system installations in PA and WV (SRI, BioMost, Inc., WOPEC, Quality Aggregates Inc.). Project participants have also received local, state, and national awards in watershed stewardship including education, outreach, partnership development, restoration, and passive treatment design and implementation. Specific roles of the responsible and cooperating parties are detailed in the attached budget. The public-private partnership team has the technical assistance necessary to complete all aspects of the projects, including greywater treatment (Dr. Valentine Kefeli, BioMost, Inc.), bat habitat (Aquascape, Waynesburg College, Jennings Env. Ed. Ctr.), Naturally-Functioning Wetlands (Aquascape), bird habitats (National Aviary, Aquascape), website (241 Computers, BioMost, Inc.), and watershed-based, environmental education program development and implementation (GCWA, GCCD, Waynesburg College, Jennings Env. Ed. Ctr., National Aviary, Aquascape, SRI). (Jennings Environmental Education Center was instrumental in developing the watershed curriculum that includes passive treatment technology used throughout the PA public school system.) The equally-valuable community support is overwhelming. (Support Letters attached.)

**Description of Outreach Activities:** In addition to the education and outreach programs previously described, media events are planned for the groundbreaking and selected projects. (The media have covered our preliminary activities at the site.) In addition to the student and youth group participation, about six tours are planned annually, with an expected total attendance of about 500. An extremely valuable education and outreach activity will be the development of a website that will be updated quarterly and include photos, monitoring data, and events. Links will be provided to other websites involved in watershed restoration and education.

**DUNKARD CREEK RESTORATION EFFORT**  
**GREENE COUNTY WATERSHED ALLIANCE**

**PROJECT BUDGET**

<b><u>Item and Description</u></b>	<b><u>Amount</u></b>	<b><u>Responsible</u></b>	<b><u>Cooperating</u></b>	<b><u>Subtotal</u></b>
<b><u>Passive Treatment System Installation</u></b>				<b>\$ 511,200</b>
<b><u>Contractual</u></b>				
Design and Survey	\$ 21,500	BMI, AQ	QAI, GCCD	
Permitting: E&S, PNDI, PHMC, Streams, Wetlands, etc.	\$ 10,500	BMI, AQ		
Construction Layout, Supervision and Support	\$ 18,500	BMI, AQ	QAI	
Wetland Planting Purchase & Install	\$ 9,000	AQ	GCWA, VOL	
As-Builts, System Evaluation & Final Report	\$ 7,500	BMI, AQ	QAI	
<b><u>Construction</u></b>				
Collection System Installation	\$ 51,000	QAI	BMI, AQ	
(2) Vertical/Horizontal Flow Ponds Construction	\$ 289,000	QAI	BMI	
Flush Pond & Wetland Construction	\$ 63,800	QAI	AQ, BMI	
Clearing (incl. bldg removal if req'd), Grubbing, E&S Controls	\$ 33,900	QAI	BMI	
Upland Seeding	\$ 6,500	QAI	AQ, BMI	
<b><u>Wetland and Upland Plantings for Diversity and Habitat</u></b>				<b>\$ 35,000</b>
High diversity plantings and habitat improvements	\$ 20,000	GCWA, AQ, AV	GCCD, VOL, BMI, QAI	
Interpretive trail and educational signs	\$ 15,000	GCWA, SRI, AQ	GCCD, VOL, QAI, BMI	
<b><u>Bat, Bird and Butterfly Habitat/Structures</u></b>				<b>\$ 19,000</b>
Materials and Installation for Bat, Bird and Butterfly	\$ 5,000	AV	GCCD, GCWA, VOL	
Osprey Nest Construction & Installation	\$ 7,000	QAI, AQ	AV, BES	
Bat cave gate and mist netting	\$ 7,000	AQ	AV, BES	
<b><u>Website for Monitoring Data Reporting</u></b>				<b>\$ 10,000</b>
Development and Uploading of Website	\$ 8,000	BMI	GCCD, GCWA	
Training materials and session for project team	\$ 2,000	BMI	GCCD, GCWA	
<b><u>Stream Water Quality Monitoring</u></b>				<b>\$ 8,000</b>
Sample Collection and Analysis	\$ 8,000	WC, GCCD, BES	BMI	
<b><u>Stream Aquatic Life Monitoring</u></b>				<b>\$ 13,000</b>
Implementation of Monitoring Program; benthics, electro fish	\$ 13,000	WC, GCCD, BES	AQ	
<b><u>Passive Treatment System Monitoring</u></b>				<b>\$ 14,000</b>
Sample Collection and Analysis incl field parameters	\$ 14,000	BMI	WC, GCWA	
<b><u>Wetland Plant Monitoring</u></b>				<b>\$ 6,800</b>
Inventory/Reporting of plant species in constructed wetland	\$ 6,800	AQ	GCCD	
<b><u>Mathews Environmental Education Center</u></b>				<b>\$ 135,000</b>
Construction of Education Building	\$ 80,000	GWCA, AQ, BMI		
Construction of greywater greenhouse treatment system	\$ 22,000	BMI, AQ		
Construction of blackwater composting system	\$ 20,000	GWCA, AQ, BMI		
Displays, materials, and educational supplies	\$ 13,000	SRI, GCCD	GCWA	
<b><u>Education and Outreach</u></b>				<b>\$ 60,000</b>
Educational programs development and implementation	\$ 25,000	GCCD, GCWA, AV	SRI	
Educational program supplies and equipment	\$ 15,000	GCCD, GCWA, AV	SRI	
Community outreach programs and education	\$ 20,000	GCCD, GCWA, AV	SRI	
<b><u>Dump Clean Up</u></b>				<b>\$ 20,000</b>
Dumpsters, bags, roll-offs, etc.	\$ 20,000	GCWA, GCCD	SRI	
<b><u>Mason-Dixon Park Kiosk</u></b>				<b>\$ 35,000</b>
Kiosk overlooking Dunkard Creek	\$ 15,000	GCWA, GCCD	SRI	
Development and Production of Exhibit Panels	\$ 20,000	MDP	SRI	
<b><u>Final Report</u></b>				<b>\$ 15,000</b>
Preparation, Compilation, Evaluation and Production	\$ 10,000	SRI	ALL	
Copies	\$ 5,000	SRI, GWCA, GCCD	MDP	
<b><u>Administration</u></b>				<b>\$ 61,700</b>
Grant Administration; Project Coordination	\$ 61,700	GCWA	GCCD, SRI	

Abbreviations of Parties Involved

**AQ**-Aquascape; **AV**-National Aviary; **BES**-Brenner's Ecological Services; **BMI**-BioMost, Inc.; **GCCD**-Greene Co. Conservation District; **GCWA**-Greene Co. Watershed Alliance; **MDP**-Mason Dixon Park; **QAI**-Quality Aggregates Inc.; **SRI**-Stream Restoration Inc.; **UWI**-Urban Wetland Institute; **VOL**-Volunteers; **WC**-Waynesburg College

**Total Requested Funding: \$ 943,700**







## LETTERS OF SUPPORT

### **Interstate**

State of West Virginia Department of Environmental Protection

Michael O. Callaghan, Cabinet Secretary
Alvan D. Gale, Non-Point Source Program Coordinator

### **Landowner**

Herschel Mathews
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### **In-Kind**

Non-Profits	Greene Co. Watershed Alliance (2 pgs.) & grant awards
	Stream Restoration Inc. with Phase I GG grant award
	The William & Frances Aloe Charitable Foundation
	Downstream Alliance (2 pgs.)
	Botanical Society of Western Pennsylvania (2 pgs.)
	Bobtown-Dunkard Reading Center (2 pgs.)
Government	PADEP Greensburg DMO - Maggie Hall
	PADEP Greensburg DMO - Ron Horansky
	Greene County Conservation District - Kevin Paul
	Jennings Environmental Ed. Center (DCNR) (3 pgs.)
Business	Quality Aggregates Inc.
	241 Computing Services
	Andrianos Arts (2 pgs.)
	Aquascape Wetland & Environmental Services
	BioMost, Inc.
	Brenner Ecological
	Earthtech, Inc.
	G&C Coal Analysis Lab., Inc.
	WOPEC
	Wayne Lumber Company
	Forever GreeneHouse
	Eagle One Aviation
	Bobtown Market
	Pecjak's Sunoco

### **Other Stakeholders**

Non-Profits	National Aviary
	Pittsburgh Voyager
	Bobtown Rod and Gun Club
	Cornerstone Genealogical Society

	Ducks Unlimited
	Dunkard Creek Watershed Assn., Inc.
	Humane Society of Greene County
	Mason-Dixon Bassmasters of West Virginia
	Mason-Dixon Historical Park Association
	PA Clean Ways of Greene County
	Raymond Proffitt Foundation
	Shannopin Civic Club
	Urban Wetland Institute
	W. PA Coalition for Abandoned Mine Reclamation
	West Greene Lions Club
	Wheeling Creek Watershed Conservancy
Government	PA State Representative Bill DeWeese
	PA State Senator Barry Stout
	PA DEP Southwest Regional Office - Rita Coleman
	Monongalia County Commission
	County of Greene Dept. of Planning & Development
	Dunkard Township Supervisors
	Greene County Commissioners with Resolution
	US Senator Rick Santorum
	USDA Forest Service
	USDA Natural Resource Conservation Service
	PA Fish and Boat Commission
	PA Game Commission
	Greene County Conservation District
Business	Bobtown Market
	CONSOL Energy Inc.
	Gloria's Ceramics
	Pecjak's Sunoco
	Waynesburg Milling Company
Schools	Carmichaels Area School District
	Central Greene School District
	Jefferson-Morgan School District
	Southeastern Greene School District
	Waynesburg College - Professor Gretel Smith
	Waynesburg College - Professor Thomas Smith
	West Greene School District
	WV Univ. National Drinking Water Clearinghouse
	Wheeling Jesuit College



Office of the Secretary  
1356 Hansford Street  
Charleston, West Virginia 25301  
Phone: (304) 558-5929  
Fax: (304) 558-6576

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## West Virginia Department of Environmental Protection

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Bob Wise  
Governor

Michael O. Callaghan  
Secretary

October 8, 2002

Ms. Terri Davin  
Greene County Watershed Alliance  
PO Box 52  
Holbrook, PA 15341


Re: Dunkard Creek Watershed Restoration Effort

Dear Ms. Davin:

As Secretary of the West Virginia Division of Environmental Protection, I would like to offer my full support of the comprehensive Dunkard Creek Watershed Restoration Effort grant proposal that is being submitted through the EPA's Watershed Initiative Grant Program. Since a good portion of watershed lies within West Virginia's Monongalia County, the state is very interested in efforts to address the multitude of water quality problems that exist. Your efforts to passively treat abandoned mine discharges in order to improve the last 6 miles of Dunkard Creek are to be commended, as should your inclusion of environmental education components in the grant to promote greater public awareness.

Again I would like to offer my full support of the restoration effort. This agency encourages your efforts and looks forward to strengthening partnerships for the restoration and enhancement of this beautiful watershed. Please do not hesitate to contact our Division of Water Resources staff at (304) 558-2107 if we can be of further assistance.

Sincerely,

  
Michael O. Callaghan  
Cabinet Secretary

cc: Allyn Turner, Director Division of Water Resources  
Bill Brannon, Deputy Director



Division of Water Resources  
1201 Greenbrier St.  
Charleston, WV. 25311  
(304) 558-2108

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## West Virginia Department of Environmental Protection

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Bob Wise  
Governor

Michael O. Callaghan  
Secretary

October 4, 2002

Greene County Watershed Alliance  
C/o Stream Restoration, Inc.  
3016 Unionville Road  
Cranberry Township, PA 16066

To Whom It May Concern:

The West Virginia Department of Environmental Protection supports the Greene County Watershed Alliance in their grant proposal to clean up Dunkard Creek. Dunkard Creek is a multi-state watershed, shared almost equally between West Virginia and Pennsylvania. Therefore, the proposed project that seeks EPA funding can make significant improvements to the water quality of Dunkard Creek, which will benefit citizens of West Virginia. Dunkard Creek has other elements of success, a committed local group, a good Rivers Conservation Plan and much water quality data.

The Division of Water Resources (DWR) supports any comprehensive effort to restore Dunkard Creek to water quality standards. The DWR Non-Point Source Program has participated in several meetings to maintain contacts with the effort in Dunkard Creek and has incorporated into its goals the partnering, through our WV Watershed Management Framework, with Pennsylvania in this important multi-state effort.

Sincerely,

Alvan D. Gale,  
Non-Point Source Program Coordinator  
WVDEP

cc: Allyn Turner, Director  
William Brannon, Deputy Director  
Teresa Koon, Assistant Deputy Director  
for Non-Point Source Programs



To: Stream Restoration Incorporated  
3016 Unionville Road  
Cranberry Twp., PA 16066

Re: Letter of Commitment  
**MD 4 Passive Treatment System**  
Dunkard Creek Watershed  
Dunkard Twp., Greene Co., PA

I am the owner of property upon which a public-private partnership effort intends to install a passive system to treat acidic drainage from an abandoned underground coal mine. I support this project consisting of the construction of a collection system, Vertical Flow Ponds, Settling Ponds, and Wetlands. The partnership effort consists of the Greene County Conservation District, Stream Restoration Inc. (non-profit), Aquascape, BioMost, Inc., WOPEC, Quality Aggregates Inc. and myself.

As part of the team, I will revegetate the site and provide equipment for some of the site work. My costs are included in the attached budget.

The Pennsylvania Department of Environmental Protection and those involved in the partnership effort are granted access to the property upon which reclamation activities are planned in order to inspect and to monitor these activities during implementation and for a period of five years thereafter.

  
signature and date

Feb-4-2002

# Greene County Watershed Alliance

Terri Davin, President; Susan Maley, Vice President; Evelyn Andrianos, Secretary



October 29, 2002

Dear Stream Restoration, Inc:

The Greene County Watershed Alliance (GCWA) would like to express its support for this exciting and innovative project being proposed for the Dunkard Creek Watershed. If funded this proposal will improve water quality immensely along an unnamed tributary which ultimately flows to Dunkard Creek, with the installation of an AMD passive wetland treatment system. It will also demonstrate to the public better stream practices using natural stream design methods, wildlife habitat improvement, educational outreach opportunities, and to assess and evaluate TMDL's. The harms that have been documented in the Rivers Conservation Plan for the Dunkard Creek Watershed are numerous and the GCWA hopes to build upon the many hours contributed by the Greene County Conservation District (GCCD), volunteers, agencies, and Streams Restoration, Inc. with the submission of this EPA Watershed Initiative Grant to improve watershed quality.

The GCWA looks forward to partnering and working side by side with Streams Restoration, Inc. and being active participants in the assessment, design, permitting, and construction of the proposed project and upon completion of the project we will assist in water quality and maintenance monitoring of the finished system. The GCWA will be the proactive partner as the administrators of this grant, with technical guidance from Streams Restoration, Inc. and the GCCD. We are enthusiastic in working with all the grant partners and value the knowledge, creativity, and experience that these volunteers, agencies, and businesses can provide.

The GCWA along with East Dunkard Creek Watershed Association (EDWA) and the Dunkard Creek Watershed Association (DCWA) will be dedicated to the educational outreach component of this proposal with the implementation of educational forums and workshops in Agricultural BMP's, Sustainable Forestry, Nutrient Management, Water Quality, Illegal dumping, and Cultural Heritage. With the partnership of PA Cleanways an illegal dump can be removed and educational materials and information regarding trash and it's effect on watersheds will be available to local schools, youth organizations and the public. It is our goal for youth groups and organizations from the entire Dunkard Creek Watershed to become active partners by understanding their watershed community and we hope to extend that partnership throughout Southwestern PA and North Central West Virginia.

We hope that funding will be made available to begin this journey of cleaner water, and for this project to become an educational model in watershed sustainability.

Sincerely,

Terri Davin, President  
Greene County Watershed Alliance

**Greene  
County  
Watershed  
Alliance**

Terri Davin, President; Susan Maley, Vice President; Evelyn Andrianos, Secretary



November 4, 2002

**Calculations of In-kind Expenses by Greene County Watershed Alliance  
For Volunteer Organization and Implementation**

50 Volunteers x \$10.00 x 1700 hours =	\$17000.00
WPCAMR Grant - Office Equipment, etc. =	1200.00
WREN Grant – Office Supplies, etc. =	3000.00
Youth-Based Monitoring Grant – Water Monitoring, etc. =	14550.00
East Dunkard Watershed Association Grant-Start-up watershed =	5022.00
Partnering in construction, monitoring, clean up, outreach, etc. =	12000.00
3% Decrease in Administration Fees, Etc. =	26428.00
<b>Total:</b>	<b>\$79,200.00</b>



**Department of Environmental Protection**  
**Rachel Carson State Office Building**  
**P.O. Box 8776**  
**Harrisburg, PA 17105-8776**  
August 27, 2002

**DEP Grants Center**

717-705-5400

Ms. Evelyn Andrianos  
Greene County Watershed Alliance  
P.O. Box 52  
Holbrook, PA 15341

Re: SW20235 – Organization of a Watershed Group: East Dunkard Watershed Association

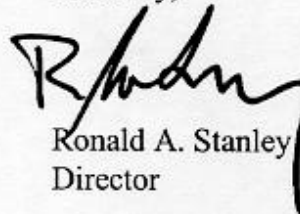
Dear Ms. Andrianos:

On behalf of Gov. Schweiker and Secretary Hess, I would like to congratulate you on your recent Environmental Stewardship and Watershed Protection (Growing Greener) grant award.

Enclosed are three copies of the proposed grant agreement between the Department of Environmental Protection (DEP) and your organization. Please have each of the three copies signed, complete the Scope of Work, Detailed and Simplified Budgets, Goals and Accomplishments Worksheets and other applicable forms, and return the entire package to the DEP Grants Center at the above address by **October 1, 2002**. Detailed Grant Execution Instructions are enclosed.

Thank you again for your participation in and support of the Growing Greener program. We look forward to working with you on this project.

Sincerely,

  
Ronald A. Stanley  
Director

Enclosures

cc: East Dunkard Creek Watershed Association





11/2000

COMMONWEALTH OF PENNSYLVANIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**Environmental Stewardship/Watershed Protection Grant**

**Simplified Budget  
(Please Type or Print Legibly)**

1. Sponsor Salaries/Benefits	<u>0</u>
2. Travel	<u>0</u>
3. Equipment and Supplies	<u>2456.00</u>
4. Administration	<u>100.00</u>
5. Contractual	<u>1366.00</u>
6. Construction	<u>0</u>
7. Other	<u>1100.00</u>
TOTAL	<u>5022.00</u>



**THE LEAGUE  
OF WOMEN VOTERS**  
OF PENNSYLVANIA  
CITIZEN EDUCATION FUND

**Water**  
**Water Resources Education Network**  
Sherene Hess, Project Director  
145 Apple Lane  
Indiana, PA 15701  
telephone: (724) 465-4978  
fax: (724) 465-4953  
email: [sherenehess@yourinter.net](mailto:sherenehess@yourinter.net)  
website: <http://pa.lwv.org/wren>

**Re: League of Women Voters of Pennsylvania Citizen Education Fund Water Resources  
Education Network Grant Award**

Evelyn Andrianos, Project Leader  
Greene County Watershed Alliance  
PO Box 52  
Holbrook, PA 15341

**May 15, 2002**

Dear Evelyn,

I am pleased to inform you that the proposal submitted by Greene County Watershed Alliance to the League of Women Voters of Pennsylvania Citizen Education Fund (LWVPA-CEF)'s Water Resources Education Network (WREN) has been selected to be funded under the Watershed Protection grant category in the amount of \$3,000. The Selection Committee, comprised of eleven individuals from statewide environmental organizations and governmental agencies, thanks you for your proposal and WREN looks forward to hearing more about the "*Watershed Issues Via the Internet*" described in the proposal over the next year.

As you know, in order to familiarize you with the guidelines for managing the grant and with other projects being funded under the same program, an Orientation Meeting, which must be attended by at least one person from your coalition, has been arranged. The Orientation Meeting for the 2002 grantees officially begins on **Thursday, June 13, 2002** with check-in at the Allenberry Resort in Boiling Springs, Cumberland County, at 11:00 am. On Thursday afternoon, you will meet other WREN project leaders, both from this year's grant awards and from last year's awards. Project Leaders from last year are wrapping up their project and will be sharing their successes and challenges they have experienced over the past twelve months.

The meeting continues on **Friday, June 14, 2002** with sessions that feature excellent speakers who will provide ideas and inspiration that will assist your coalition in reaching the objectives described in your proposal to the LWVPA-CEF. We believe that we have a worthwhile agenda with speakers who are eager to share their knowledge with you and to learn from you as well. And, of course, we know that the combination of 2001 project leaders and 2002 project leaders will guarantee superior networking opportunities for all. Additionally, we will have various resource materials available.

WREN will cover all of your meeting related expenses, including overnight accommodations, meals, and mileage reimbursement. WREN encourages participation any member of your coalition, so

an e-mail to [recharge@groundwater.org](mailto:recharge@groundwater.org) with the words "subscribe to recharge report" in the subject line (omit the quotation marks) and include the e-mail address that you would like added inside the body of the message.

WREN has training scholarships available for these and other water resources education conferences, workshops and seminars. Contact me for an application. Also, WREN has funding available for **Opportunity Grants**: small grants (\$100-\$250) for "great, last minute ideas." The activities funded must be educational and relate to drinking water source protection or watershed education. Send a letter of request, with budget and justification to me at address above.

1. The US Environmental Protection Agency has two new programs to recognize local water resources protection achievements. The first is called "Clean Water Partners for the 21st Century Recognition Program." Designed to honor local governments that "have and continue to undertake extraordinary actions within their own organization and locality," the program wants to acknowledge extraordinary achievement in:

- Watershed Protection
- Increasing Public Access to and Understanding of Water Resources to Promote Watershed Health
- Water Quality and Environmental Science to Benefit the Local Watershed
- Local Government Management Programs to Improve Watershed Health
- Design or Engineering to Achieve Watershed Goals

The deadline to apply for 2002 has passed, but if you are interested in applying for 2003 recognition, visit: [www.cleanwaterpartners.org](http://www.cleanwaterpartners.org).

Also, EPA has announced that applications are now being accepted for the first annual National Award for Smart Growth Achievement. Winners will be recognized at an awards ceremony in Washington D.C. on November 19, 2002. Smart growth development practices support national environmental goals by preserving open spaces and parkland and protecting critical habitat; improving transportation choices, including walking, bicycling, and transit, which reduces emissions from automobiles; promoting brownfield redevelopment; and reducing paved surfaces, which improves water quality. Through the National Award for Smart Growth Achievement, EPA seeks to recognize and support public entities (from cities to state governments and the many types of public entities in-between) that promote and achieve smart growth. **Applications are due on August 30, 2002.** For more information, visit: <http://www.epa.gov/smartgrowth/awards>.

## 2. Some RESOURCES available

From the Center for Watershed Protection: Why Watersheds? their newest presentation on CD-ROM can be previewed and ordered from their online store at <http://www.cwp.org/water.htm>. Also, watch for Stormwater Practice Design, the next addition to their growing family of slideshows, to be available in late summer. Their new improved Do-It-Yourself Watershed Planning Kit is available as well! This second kit in the popular do-it-yourself series pulls together everything you'll need to start crafting your own local watershed protection plan. For

Please feel free to place my name on your mailing list for any upcoming public events related to your project; if my schedule permits it, I will attend and lend support where I am able. Edie Stevens, WREN's Communications Director, would also like to be notified, if possible, of any upcoming events so that an announcement of your event can be made in the *Water Policy News* newsletter. Mailing labels of our addresses are included.

Congratulations on the success of your proposal. If you have any questions, or concerns, please call me at 724.465.4978 or email me at [sherenehess@yourinter.net](mailto:sherenehess@yourinter.net). I look forward to meeting you and any other members of your coalition at the meeting in June.

Very sincerely yours,



Sherene Hess, Project Director  
Water Resources Education Network  
a project of the League of Women Voters of Pennsylvania Citizen Education Fund

**Attachments:**

June 13-14, 2002 Meeting Registration Form (to be completed and returned by May 31)  
Scope of Work Agreement (goldenrod colored copy to be completed and returned by May 31)  
Project Summary & Disbursement #1 Form (blue colored copy to be completed and returned May 31)  
Budget Worksheet (green colored copy)  
2001 Map & Project Descriptions  
2002 Map & Project Descriptions  
Publication Order Form  
Localized Press Release ((salmon colored copy)  
Guidelines for Conducting Your Project  
Photocopy of *Water Policy News*, May 2002  
Groundwater Primer  
Self addressed stamped envelope  
Labels  
Allenberry Resort directions





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**WESTERN PENNSYLVANIA COALITION FOR ABANDONED MINE RECLAMATION**

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Donohoe Center, R.D. #12, Box 202-B, Greensburg, PA 15601 • Phone (724) 837-5271 • FAX (724) 837-4127

email: wpcamr@westol.com

December 18, 2001

Evelyn Andrianos  
Greene County Watershed Alliance  
933 Delphene Road  
Holbrook, PA 15341

**RE: 2001/2002 Regional Watershed Support Initiative (RWSI) Grant**

Dear Evelyn:

We are pleased to inform you that the Western Pennsylvania Coalition for Abandoned Mine Reclamation (WPCAMR) has determined that your Watershed Association and/or Environmental Group is eligible to receive a grant under the Regional Watershed Support Initiative (RWSI). The grant amount to be awarded to you is based on the RWSI guidelines and incorporates information you submitted to us on your grant application.

Please note that the WPCAMR committee, which reviewed the grant requests, asks you to disallow salary and reduce any related administration funding. This decision was made to allow us to extend grants to more groups. Administrative charges may reduce the amount of the grant that is available for the project. In addition, funds for a watershed specialist salary or expenses are NOT allowed under this grant.

Prior to distribution of the funds, several items need to be addressed. First, we have included a "Subcontract Agreement" which must be signed by your group's president/chairman and a witness. Please make a copy of the signed contract for your records and return the original signed copy to WPCAMR.

Second, we have enclosed an "Application for Reimbursement." The Application for Reimbursement must be completed, signed and submitted to us prior to initiation of any project and/or activities outlined in your grant application. Adherence to the projected expenditures as shown on the Application for Reimbursement and the original grant application is necessary during the term of the grant. Any substantial variations from those projected expenditures must be immediately reported to and approved by WPCAMR prior to initiation of activities. Because DEP once again is using a reimbursement form designed for another program, we have included a completed "Optional Worksheet" to show where your budget items would best fit the

**TAKE A STAND FOR RECLAMATION**

reimbursement form. The totals from the worksheet should be placed under the Expenditures for this Period section on the Application for Reimbursement.

Specific information that pertains to your grant is as follows:

**Grant Amount:** \$1,200

**Projected Use of Grant:** Website, Camera, Scanner

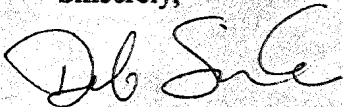
**Grant Duration:** Expenditures relative to items outlined in your grant application can begin AFTER submission and approval of the enclosed **Application for Reimbursement AND Subcontractor Agreement**. All expenditures and projects must end on or before June 30, 2002. No extensions will be allowed.

**Reporting:** The organization should keep receipts and records for all expenditures. Because of time constraints, no interim report will be required. However, a final report is to be submitted to WPCAMR no later than **July 5, 2002**. The final report must include an itemized breakdown of all expenditures and a brief evaluation of how the grant was utilized to achieve the goals and objectives outlined in your grant application.

**Contacts:** Deb Simko, Watershed Coordinator  
WPCAMR  
RD # 12, Box 202B  
Greensburg, Pa. 15601  
(724) 837-5271 ext. 111  
(724) 552-0143 (fax)  
E-mail: debsimko@yahoo.com

The reimbursement to your Watershed Association/Environmental Group will be forwarded to the organization administering your grant once all applicable applications and agreements are received by WPCAMR.

Sincerely,



Deb Simko  
Watershed Coordinator

Enclosures (3)



Tom Ridge, Governor

Mark Schweiker, Lt. Governor

Department of Environmental Protection  
Rachel Carson State Office Building  
P.O. Box 8776  
Harrisburg, PA 17105-8776  
August 31, 2001

DEP Grants Center

717-705-5400

Ms. Lisa Bennett  
Greene County Conservation District  
93 East High Street, Room 215  
Waynesburg, PA 15370

Re: SW10380 – Youth-Based Watershed Monitoring-Training and Equipment

Dear Ms. Bennett:

On behalf of Gov. Tom Ridge, I would like to congratulate you on your recent Environmental Stewardship and Watershed Protection (Growing Greener) grant award.

Enclosed are three copies of the proposed grant agreement between the Department of Environmental Protection (DEP) and your organization. Please have each of the three copies signed, provide the requested information, and return the entire package as soon as possible to the DEP Grants Center at the above address. Detailed Grant Execution Instructions are enclosed.

Your organization is required to attend a mandatory training session. The dates and locations for the sessions are also enclosed. Please select one session to attend and notify your Project Advisor, Bruce Fry, Southwest Regional Office, at 412-442-4000, of the date you have selected.

Thank you again for your participation in and support of the Growing Greener program. We look forward to working with you on this project.

Sincerely,

A handwritten signature in black ink that reads "David C. Hogeman".

David C. Hogeman  
Director

Enclosures

cc: Greene County Watershed Alliance  
Bruce Fry

